Chi-Square Test on the Calculator

*Example:*

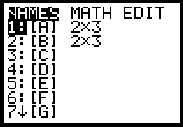
Remember our example on binge drinking on college campuses.

|  |  |  |
| --- | --- | --- |
|  | **Men** | **Women** |
| **Yes** | 1630 | 1684 |
| **No** | 5550 | 8232 |

We want to do a Chi-Square test on this information to see if there is any association between gender and binge drinking on college campuses.

To do this, we need to input the data into the calculator in a matrix.

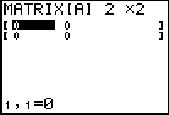
1. Go to the Matrix menu (hit 2ND and then x-1)
2. You should see the following menu:



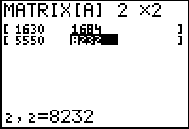
1. Scroll over to EDIT
2. Place your cursor on the matrix name that you want to put the data in and hit ENTER
3. You should see the following menu:



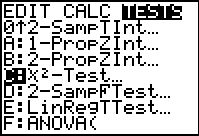
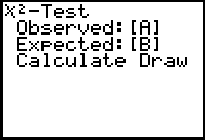
1. Input the dimensions of the matrix and hit ENTER. (example below)



1. Input the data into the matrix



1. Return to the main screen (hit 2ND and then MODE so that you quit)
2. Go to the TESTS menu (hit STAT and then scroll over to TESTS)
3. Find the Chi-Square test and hit ENTER

1. For OBSERVED: Input the matrix name that you have your data in by going to the MATRIX menu, under NAMES, scroll down to the matrix that your data is in, and hit ENTER.
2. For EXPECTED: Put the name of the matrix that you want your expected counts matrix stored in by using the same process as in #11
3. Scroll down to CALCULATE and hit ENTER
4. This will give you your test statistic, your p-value, and your degrees of freedom. Your expected counts will be in the matrix that you specified. Go to the MATRIX menu, and EDIT to see it.

